

§ 160.032-4

the materials shall be maintained at all times based on the approved working load.

(b) *Turning out.* (1) Mechanical davits shall be designed so that they may be operated from the full inboard to the full outboard position when the lifeboat is fully equipped, but not loaded with persons, it being assumed that the vessel is heeled 15 degrees in either direction and with a 10-degree trim.

(2) Gravity davits shall be designed so that they may be operated automatically from the full inboard to the full outboard position when the lifeboat is fully equipped, but not loaded with persons, it being assumed that the vessel is heeled 15 degrees in either direction and with a 10-degree trim. This operation shall be accomplished by merely releasing the brake of the lifeboat winch.

(c) *Materials.* (1) Structural steel made by the open-hearth or electric furnace process shall be in accordance with ASTM A 36/A 36 M (incorporated by reference, see § 160.032-1).

(2) Steel castings not intended for fusion welding shall be in accordance with ASTM A 36/A 36 M (incorporated by reference, see § 160.032-1), Grades U-60-30, 60-30, 65-30, 65-35, and 70-36.

(3) Steel castings intended to be fabricated by fusion welding shall be in accordance with ASTM Standard Specification A 216 (incorporated by reference, see § 160.032-1), Grades WCA and WCB.

(4) Cast iron shall not be used in the construction of davits.

(5) Special consideration shall be given to the use of other materials. Proper affidavits concerning these materials will be required.

(d) *Bearings.* Bearings of davits shall be of non-ferrous metal, or shall be of the roller or ball-bearing type. Positive means of retaining the bearings in position and of lubricating same shall be provided except that self-lubricated bearings in sheaves of manila rope blocks will be acceptable. The manufacturer shall furnish a lubrication chart for each davit together with a plate attached to the davit indicating the lubricants recommended for extremes in temperature.

(e) *Guards.* All moving parts shall have suitable guards.

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(f) *Welding.* Welding, when employed, shall be performed by welders certified by the U.S. Coast Guard, American Bureau of Shipping, or U.S. Navy Department, and the electrodes used shall be of an approved type.

[CGFR 49-18, 14 FR 5112, Aug. 17, 1949, as amended by CGFR 65-16, 30 FR 10898, Aug. 21, 1965; CGFR 65-9, 30 FR 11466, Sept. 8, 1965; USCG-1999-5151, 64 FR 67184, Dec. 1, 1999; USCG-2000-7790, 65 FR 58463, Sept. 29, 2000]

§ 160.032-4 Capacity of davits.

(a) Davits shall be approved for a working load after it has been demonstrated by detailed calculations that this working load can be carried with a minimum factor of safety of six based on the ultimate strength of the materials. It will also be necessary to conduct the tests specified in § 160.032-5.

(b) [Reserved]

[CGFR 49-18, 14 FR 5113, Aug. 17, 1949]

§ 160.032-5 Inspection and testing of davits.

(a) *Material testing.* (1) Where davit arms and frames are fabricated of steel castings, an inspector shall be present at the foundry where such castings are made to witness the tests prescribed by the applicable specification. The manufacturer shall furnish an affidavit stating that the material complies with the requirement of the specification noted in § 160.032-3(c) (2) or (3). The inspector shall stamp the casting with the letters U.S.C.G., the Marine Inspection Office identification letters, the letters F.T., and the date of inspection.

(2) The manufacturer shall furnish an affidavit stating that the structural steel complies with the requirements of the specification noted in § 160.032-3(c)(1).

(3) The affidavits referred to above shall be obtained from the foundry or mill supplying the material.

(b) *Factory tests for initial approval.* (1) Mechanical davits shall be tested for strength and operation at the place of manufacture in the presence of an inspector. The davits shall be completely assembled. The tests to be conducted are as noted in paragraphs (b) (2) through (4) of this section.

(2) A weight equal to 2.2 times the working load shall be suspended from the eye or end of the davit arm. With

this load suspended from the davit it shall be operated from the full inboard to the full outboard position using the same operating crank or device used in actual practice aboard ship. The load shall then be swung in a fore and aft direction through an arc of approximately 10 degrees, each side of the vertical. The davit arm and frame shall show no permanent set or undue stress from this test. While this test is being conducted, the frame and arm, if of cast material, shall be subject to a test by being hammered to satisfy the inspector that the castings are sound and without flaws.

(3) A weight equal to 0.5 times the normal working load shall be suspended from the eye or end of the davit arm. This load shall be moved from the full inboard to the full outboard position using the actual handles supplied with the davit. The time required for this operation shall not exceed 90 seconds. The above test shall also be conducted with the davits set up to simulate a 15-degree inboard list with a 10-degree trim to determine that the davits may be satisfactorily operated in that condition. The above test shall also be conducted with the davits set up to simulate a 15-degree outboard list with a 10-degree trim. This test shall determine that the davit arms will not run out under the weight of the light boat.

(4) A load of 1.1 times the normal working load shall be moved from the full outboard to the full inboard position to demonstrate the strength of operation of the return mechanism.

(5) Gravity davits shall be tested for strength and operation at the place of manufacture in the presence of an inspector. The davit arms, tracks, frames, attachments, etc., shall be set up in a manner similar to an actual shipboard installation. This installation shall include a lifeboat winch suitable for gravity davits and the falls shall be reeved in the normal manner. The tests to be conducted are as noted in paragraphs (b)(6) to (8) of this paragraph.

(6) A weight equal to 1.1 times the working load shall be run from the full inboard to the full outboard position with the davit assembly in the normal upright condition. The davit arm,

trackways, etc., shall show no permanent set or undue stress from this test.

(7) A weight equal to 2.2 times the working load shall be attached to the falls and suspended from the davit arm when in the full outboard position. The load shall be swung in a fore and aft direction through an arc of approximately 10 degrees each side of the vertical. The davit arm and trackways shall show no permanent set or undue stress from this test.

(8) The entire davit assembly shall then be heeled inboard 15 degrees and with a 10-degree trim. In this condition a weight equal to 0.5 times the working load shall be suspended from the falls and shall be operated from the full inboard to the full outboard position. This test shall demonstrate that the load is sufficient to turn out the davit by merely releasing the brake on the winch. Stops shall be made at intervals between the inboard and outboard positions to assure that the davit will start from any position.

(c) *Factory testing after approval.* (1) After the design of a mechanical davit has been approved, subsequent davits of the same design shall be individually tested as described in paragraph (b)(2) of this section.

(2) After the design of a gravity davit has been approved, subsequent davit arms of the same design shall be individually tested as described in paragraph (b)(7) of this section, except that the swing test may be eliminated if not practicable.

(d) *Name plate.* (1) A corrosion resistant name plate shall be affixed to each davit arm and frame on which shall be stamped the name of the manufacturer, approval number, type and serial number of the davit, maximum working load in pounds per arm together with the Marine Inspection Office identification letters, the date, and the letters "U.S.C.G."

[CGFR 49-18, 14 FR 5113, Aug. 17, 1949, as amended by CGFR 65-9, 30 FR 11467, Sept. 8, 1965; CGD 75-186, 41 FR 10437, Mar. 11, 1976]

§ 160.032-6 Procedure for approval of davits.

(a) Before action is taken on any design of davit, detailed plans covering fully the arrangement and construction of the davit together with stress